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## Social Workers' Current Practice of Screening for Brain Injury

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# Social Workers' Current Practice of Screening for Brain Injury

Submitted by Shawna Lyn Carey, B.A.  
December 2012

MSW Clinical Research Paper

Presented to the Faculty of the  
School of Social Work  
St. Catherine University & University of St. Thomas  
St. Paul, Minnesota

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The Clinical Research Project is a graduation requirement for MSW students at St. Catherine University/University of St. Thomas School of Social Work in St. Paul, Minnesota and is conducted within a nine-month time frame to demonstrate facility with basic social research methods. Students must independently conceptualize a research problem, formulate a research design that is approved by a research committee and the university Institutional Review Board, implement the project, and publicly present the findings of the study. This project is neither a Master's thesis nor a dissertation.

### Abstract

The purpose of this study was to determine if and to what extent LICSWs are screening for brain injury during intake. Licensed social workers were invited to participate in an online Qualtrics survey. Questions in the survey gauged participants' use of assessments for physical, cognitive and emotional categories of symptomatology identified in the literature. Thirteen LICSWs completed the survey for a response rate of 5.1 percent. All participants in this study work with at least one population at-risk for brain injuries, yet over half of the LICSW respondents indicated not having training in brain injury. Respondents who had training in brain injury were significantly more likely to screen for the physical symptoms of ringing in ears, blurred vision, and numbness and the cognitive symptom of getting lost. There were no differences in the training and no training conditions on screening for emotional symptoms of brain injury. Since the Centers for Disease Control and Prevention have identified brain injury as a major public health problem, it is incumbent on social workers to be aware of this social issue and to learn about its symptoms and methods for assessment in order to address the 85 percent of individuals with brain injury who are undiagnosed. Further research is needed to determine if the findings apply in larger populations of clinical social workers. If so, it would be necessary to begin to understand the barriers social workers face in becoming aware of emerging public health concerns. Interviewing LICSWs regarding their perspectives on brain injury and their current knowledge, exposure to training, and/or use of brain injury screening tools would also be recommended to enrich our understanding of the in-vivo experience of social work clinicians.

### Acknowledgements

Acknowledging all who have encouraged and inspired me to persevere through the completion of this project is a small gesture of my gratitude for the great amount of support I received. To Andrew, who played me the theme song to Chariots of Fire at my lowest point; Dr. Carol Kuechler, my research chair who gently encouraged me and informed my writing; my committee members who voluntarily offered their time to guide me in the process; Cassie for editing my paper when I could not read Times New Roman for another moment; Caroline for the pseudo-therapy sessions; my research cohort for bearing with me through the dramatic tellings of my progress or lack thereof; my facebook friends for encouraging my progress at each status update; and to everyone else who supported me, thank you.

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### **Introduction**

Brain injuries are a major public health problem (Centers for Disease Control and Prevention, 2012). The Centers for Disease Control and Prevention (2012) report that traumatic brain injuries occur approximately 1.7 million times every year in the United States and that currently about 100,000 Minnesotans are surviving with disabilities due to brain injury. In 2010, approximately 76.5 billion dollars were spent on medical costs for traumatic brain injuries (Centers for Disease Control and Prevention, 2012).

Acquired brain injury is generally defined as injury to the brain causing malfunction of the inner workings of the brain and resulting in changes related to executive functioning, such as thought, sensation, behavior, judgment, and movement (Brain Injury Association of America, 2012; Folzer, 2001; Valente & Fisher, 2011).

Acquired brain injuries are those that occur after birth and are not diagnosed as hereditary or degenerative (Centers for Disease Control and Prevention, 2012; Minnesota Brain Injury Alliance, 2012). In addition, acquired brain injury includes traumatic brain injuries, which result from external blows or jolts to the head, such as car accidents, bicycle accidents, falls, contact sports, blasts from war zones, and physical violence (BrainLine.org, 2012; Boss, 2006; Minnesota Brain Injury Alliance, 2012; Valente & Fisher, 2011). The focus of this study was on acquired brain injuries.

Brain injuries occur at random, and the entire population is susceptible (Minnesota Brain Injury Alliance, 2012). Those at greatest risk for sustaining a traumatic brain injury include males and young adults ranging from 15 to 24 years of age, adults who are 75 years of age and older, and children five years of age and younger (National Institute of Health, 2011; Valente & Fisher, 2011). In particular, people at high risk for

brain injury are likely to be in settings in which social workers practice, such as shelters, employment sites, mental health facilities, special education programs, developmental disability programs and domestic abuse facilities (Hux, Schneider & Bennet, 2009).

Many people with brain injuries are not even aware that they have incurred such an injury (Bazarian et. al, 2005).

Brain injuries have since been studied and researched helping social workers become more aware of the incurred losses experienced as a result of injuries to the brain. Identifying brain injury is an essential aspect of a social worker's job. The Centers for Disease Control and Prevention (2012) attest that utilizing assessment tools is vital to clinical treatment for persons with brain injury.

Brain injuries are complex and far reaching in terms of age and population. They affect individuals with brain injuries and those involved in their lives, such as family members, employers and other social contacts. This study focused particularly on social workers' experience with individuals who have brain injuries. The purpose of this study was to determine if and to what extent Licensed Independent Clinical Social Workers (LICSW) are screening for brain injury during intake. Social workers were asked to participate in an online survey about their experience and practice related to assessment for brain injuries.

### **Literature Review**

The literature review relied on information from multiple disciplines such as social work, psychology, medicine and science. The areas of literature reviewed include an overview of brain injury, typical symptoms of brain injury, the spectrum of brain injury, assessments used to screen for brain injury, and implications for social work practice.

#### **Overview of Brain Injury**

Throughout the study of brain injury, several terms have been used to refer to brain injury occurring post birth without relation to a genetic condition, including trauma-related brain damage, cerebral trauma, cerebral injury, head injury, and brain injury (Centers for Disease and Prevention, 2012; Minnesota Brain Injury Alliance, 2012; Bigler, 1987). Presently, the most common term used to refer to general injury to the brain is *acquired brain injury* which clarifies the distinction from genetic, hereditary or degenerative brain conditions (Centers for Disease and Prevention, 2012).

Overall, the term acquired brain injury encompasses tumors, anoxic brain injuries, and edema (Bigler, 1987; BrainLine.org, 2012; Center for Disease Control and Prevention, 2012; Minnesota Brain Injury Alliance, 2012). Acquired brain injuries can also be caused by disease and infection (Minnesota Brain Injury Alliance, 2012). Wernicke's Encephalopathy is one example of an acquired brain injury, which is caused by over consumption of alcohol (National Institute of Neurological Disorders and Stroke, 2007). Other examples of acquired brain injuries include those caused by chemotherapy, eating disorders, near drowning, tumors, aneurysms, and strokes (Brain Injury Alliance, 2012; BrainLine.org, 2012; National Institute of Health, 2007).



In addition, acquired brain injury includes traumatic brain injuries, which result from external blows or jolts to the head: a car accident, bicycle accident, a fall in which one lands on his or her skull, contact sports, blasts from war zones, and physical violence (BrainLine.org, 2012; Boss, 2006; Minnesota Brain Injury Alliance, 2012; Valente & Fisher, 2011). In 2010, the Demographics and Clinical Assessment Working Group of the International and Interagency Initiative toward Common Data Elements for Research on Traumatic Brain Injury and Psychological Health represented by Menon, Schwab, Wright, and Maas defined traumatic brain injury as “an alteration in brain function, or other evidence of brain pathology, caused by an external force” (p. 1637).

Centers for Disease Control and Prevention (2012) sub-categorized traumatic brain injuries as penetrating and closed wounds. The penetrating wound requires an external object piercing through the skull causing injury to the brain; whereas, closed wounds are caused by motions of deceleration and acceleration at a high rate (Centers for Disease Control and Prevention, 2012; Peters, 2011). Falls, assaults, motor vehicle accidents, and incidents whereby a person is struck by an object are reported to be the leading causes of traumatic brain injury (Centers for Disease Control and Prevention, 2012). Even though acquired brain injuries are sustained in numerous ways, typical symptoms of brain injury exist (Centers for Disease Control and Prevention, 2012).

### **Typical Symptoms of Brain Injury**

Symptoms of brain injury manifest in physical, cognitive, and emotional conditions (Centers for Disease Control and Prevention, 2012; Minnesota Brain Injury Alliance, 2012). Each of these areas will be addressed.

### **Physical Symptoms of Brain Injury**

Some of the typical physical symptoms of brain injury include headaches, fatigue, ringing in ears, blurred and/or double vision, sensitivity to light, and numbness (Minnesota Brain Injury Alliance, 2012; Brain Injury Association, 2012; Picard, Scarisbrick & Paluck, 1991; Gioia & Collins, 2006). In some cases, brain injuries can increase risk for epilepsy, Alzheimer's disease and Parkinson's disease (National Institute of Neurological Disorders and Stroke, 2002).

### **Cognitive Symptoms of Brain Injury**

Cognitive symptoms of brain injuries affect thinking, sensation, and language (Centers for Disease Control and Prevention, 2012). Specifically, cognitive symptoms may manifest as memory deficiencies, increased distractibility, slowness in thinking, difficulty learning new tasks, trouble making decisions, problems getting lost, and lack of insight (Minnesota Brain Injury Alliance, 2012; Patterson & Staton, 2009; NIH Consensus Development Panel on Rehabilitation of Persons With Traumatic Brain Injury, 1999). Situational and/or temporary amnesia (Osborn, 1998) surrounding the traumatic event is common, and people with brain injury may not even remember that they have an injury. People with brain injuries may likely maintain memories and expectations of themselves in their pre-accident condition (Osborn, 1998). They may continue to expect psychological sameness, even when they have lost the cognitive abilities to maintain past life behavior and ability.

Poor impulse control is a common symptom of traumatic brain injuries (Rochet et al., 2010; Kim, 2002). Impulsive reactivity is defined as “urgency, lack of premeditation, lack of perseverance, and sensation seeking” (Rochet et al., 2010, p. 778). Manifestation

of impulsivity may be revealed in excessive and unbudgeted spending habits, sexual deviance, anger, lying in bed all day, and inattention. Emotional symptoms are also manifested after brain injury.

### **Emotional Symptoms of Brain Injury**

Emotional symptoms of brain injury include irritability, anger, increased instances of laughter and tearfulness, as well as increased sadness and/or depression (Minnesota Brain Injury Alliance, 2012; Folzer, 2001). Other common symptoms include anhedonia, sense of worthlessness, decreased self-esteem, and mood-congruent delusions (Handel et al., 2007).

The most common mental health diagnosis after a brain injury is major depressive disorder for the general population (Handel et al., 2007). Persons with traumatic brain injuries are 25-50% more likely to be diagnosed with major depression compared to individuals without brain injury (Handel et al., 2007). Depression is more prevalent in diagnoses of mild brain injury compared to those with moderate-catastrophic brain injuries (Vani et al., 2010). This diagnosis is directly related to the seemingly infinite amount of loss which victims of brain injury incur, including chronic grief, rage, and jealousy, leading them to become isolated (Hooyman & Kramer, 2006). Claudia Osborn, a doctor who wrote an autobiography detailing her journey after sustaining a traumatic brain injury in the 1980s, mentioned loss not addressed by Hooyman and Kramer (2006). Some of the losses she experienced include but are not limited to occupational, financial, physical appearance, and control of some bodily functions (Osborn, 1998). Symptom severity depends on the level of severity of the brain injury.

**Continuum of Brain Injury**

Typically, there are two categories on the continuum that define the severity of brain injury: mild and moderate/severe. Some literature suggests a third category: catastrophic.

**Mild Brain Injury**

Mild traumatic brain injuries are prevalent; 75 percent of all traumatic brain injuries are mild (Vani et al., 2010). In a mild brain injury, the loss of consciousness or altered mental state is temporary (Patterson & Staton, 2009). It may even be so temporary that the individual and those around him or her are unaware of the altered state of consciousness (Folzer, 2001; Patterson & Staton, 2009). Headaches, dizziness, and fatigue are physical symptoms of a mild brain injury (Valente & Fisher, 2011). Difficulty focusing and problem solving are a couple of cognitive symptoms at this level of brain injury. Emotional symptoms associated, with mild brain injury, include mood disturbances of anxiety or depression and increased levels of irritability (Patterson & Staton, 2009).

Folzer (2001) suggested that the manifestations of a mild brain injury may not be distinguishable even to professionals. Valente and Fisher (2011) concurred that mild brain injury is typically misdiagnosed since these symptoms are also typical for other diagnoses. Folzer (2001) also suggested that individuals who suffer mild brain injuries sustain symptoms that are life altering. Whereas, Valente and Fisher (2011) indicated that most people who have sustained a mild brain injury will recover with no symptoms after three months, clarifying that only 20 percent of people with this level of brain injury will have ongoing symptoms leading to further medical care.

**Moderate/Severe Brain Injury**

When an individual incurs a moderate or severe brain injury, loss of consciousness can be significant: fifteen minutes to a full day (Patterson & Staton, 2009). Rehabilitation is likely needed after the individual regains consciousness due to subsequent lack of coordination, paralysis, deficits of memory, and lack of emotional expression (Patterson & Staton, 2009).

Damages marked on the moderate to severe spectrum tend to be permanent in nature (Centers for Disease Control and Prevention, 2012; Folzer, 2001; Patterson & Staton, 2009). A person with a severe brain injury will need assistance with activities of daily living, such as getting dressed or making meals, and will have severe memory deficits and experience lack of orientation (Folzer, 2001; Patterson & Staton, 2009). Emotional expression is erratic (Patterson & Staton, 2009). Nearly 40 percent of individuals with a severe brain injury continue to have a disability one year later (Selassie et. al, 2003).

Catastrophic brain injuries result in coma or in death (Centers for Disease Control and Prevention, 2012; Patterson & Staton, 2009). A coma is defined as the inability to open eyes, respond to cues, and speak (Teasdale & Jennett, 1974). Patterson and Staton (2009) reported that individuals who survived a catastrophic brain injury often lack the capacity to make decisions. They also reported that these individuals need complete assistance in daily cares (Patterson & Staton, 2009). To determine where an individual is on the spectrum of brain injury, individuals undergo screening.

**Screening Tools for Brain Injury**

In 400BC, the father of western medicine, Hippocrates, declared that every suspected brain injury needed to be treated—no matter how mild (Jennett, 2002). The Centers for Disease Control and Prevention (2012) continue that declaration, attesting that utilizing assessment tools is vital to the clinical treatment of brain injury. Many tools have been developed specifically for assessing and screening for brain injury.

The Glasgow Coma Scale, created in 1974 by Teasdale and Jennett, was the first attempt to measure levels of consciousness, one of three factors of a brain injury (Bigler, 1987). It is a form completed by medical professionals assessing comatose states and impaired consciousness (Teasdale & Jenette, 1974). Ratings are ascribed to individuals by measuring the amount of stimuli needed to prompt eye opening, level of motor movement, and degree of verbal responsiveness (Bigler, 1987; Teasedale & Jennett, 1974).

The HELPS Brain Injury Screening Tool (HELPS) was originally created in 1991 by Picard, et al. (1991) and was updated in 2011 to maintain credibility with the Centers for Disease Control and Prevention. HELPS guides the screener to ask five questions related to incidents and general symptomatology common to brain injury. For instance, the “H” represents the question, “Have you ever hit your head or been hit on the head” (Picard, et al., 1991). A simple scoring tool is included which reiterates that a positive on the test represents a possible brain injury (Picard, et al., 1991). A positive score is indicative of “an event that could have caused a brain injury, and a period of loss of consciousness or altered consciousness after brain injury or indication that the injury was severe, and the presence of two or more chronic problems that were not present before

the injury” (Picard, et al., 1991, p. 2). Since screening tools were not designed to diagnose a brain injury, reliability and validity testing have not been included.

Hux, et al. (2009) utilized HELPS in a research study in which professionals from four agencies in settings likely to be serving populations at high-risk for brain injury administered the tool with new clients during a six-month period. The study results indicated that nearly 60 percent of new clients at a mental health facility had positive screens for possible brain injury. The significance of the above average positive screening indicates that these questions need to be asked (Hux, et. al, 2009). One of Hux, et. al (2009) limitations regarding their study was the reliance upon self-reporting.

The Ohio Valley Center for Brain Injury Prevention and Rehabilitation (2009) developed the T-B-I Screening tool to limit the inaccuracy of self-reporting by attempting to obtain a broader life history limiting the use of terms like brain/head injury and concussion. Instead the screener asks more general questions, for example “Have you ever been knocked out following an accident, an assault or any other injury” (p. 1). Individuals have the opportunity to use their own words to describe injuries sustained to the head.

The acronym T-B-I guides screeners to first ask questions related to trauma, then behavioral effects, and lastly the impact on everyday functioning. Next, screeners are guided by the T-B-I screening tool in order to judge the severity of the injury. Finally, screeners are prompted to consider treatment options such as the possibility for referring the client for an evaluation by an expert in brain injury or for referring the client to a rehabilitative program or other community intervention (Ohio Valley Center for Brain Injury Prevention and Rehabilitation, 2009).

The Acute Concussion Evaluation (ACE) (Gioia & Collins, 2006) was developed by the Centers for Disease Control and Prevention (2012). The assessment is used by physicians and clinicians to screen for injuries to the head. The HELPS, the T-B-I, and the ACE brain injury screening tools are not a means of diagnosing brain injuries but rather indicators for potential brain injury (Hux, et. al, 2009; Ohio Valley Center for Brain Injury Prevention and Rehabilitation, 2009; Gioia & Collins, 2006). The Centers for Disease Control and Prevention (2012) implored clinicians to be aware that brain injury is a public health problem.

### **Implications for Social Work Practice**

Social workers need to be aware of brain injury. Sequeira and Halstead (2001) recommended that social workers become informed about whether their clients have a disability to assure that clients have appropriate therapeutic interventions. The Department of Justice (1998) also recommended that social workers become informed about whether clients have a brain injury, since brain injury can qualify an individual as a vulnerable adult. In addition, Kim (2002) suggested that social workers needed to know if their clients have brain injuries since physiological conditions are treated differently from psychological conditions. For example, verbal aggression and lack of impulse control might indicate a brain injury and inappropriate medication or physical force would be contradicted.

Confirming whether or not an individual has a brain injury will inform the interventions social workers employ (Sequeira & Halstead, 2001). Without assessing for brain injury, social workers may increase the risk of setting clients up for failure—assuming they will remember information and interactions from meeting to meeting



when they may suffer from short-term memory loss—or attributing verbal aggression to pent up rage rather than to a physiological reaction to a brain injury (Sequeira & Halstead, 2001; Folzer, 2001). If a social worker knows that the origin of impulsive verbal aggression is physiological rather than psychological the treatment goals will focus on managing triggers rather than finding the root of the anger issue (Folzer, 2001; Sequeira & Halstead, 2001).

Even though medical and rehabilitative interventions exist, survivors of brain injury need social workers' assistance to navigate the health care process. The National Institute of Health (1999) suggested that navigating the health care system and rehabilitative process is difficult for survivors of brain injury and can lead to unsuccessful treatment. The National Institute of Health (1999) also recommended that social workers be aware of the systems of care for brain injury so that survivors have the opportunity to meet their potential for living life after brain injury (National Institute of Health, 1999).

One way to discover if clients have a potential brain injury is to conduct screenings upon intake (Centers for Disease Control and Prevention, 2012; Hux, et. al, 2009). In particular, people at high risk for brain injury are likely to be in settings in which social workers practice, such as shelters, employment sites, mental health facilities, special education programs, developmental disability programs, and domestic abuse facilities (Hux, et. al, 2009).

According to the National Association of Social Workers (NASW) (2012), one of the primary goals for social workers is to advocate for people who are in need and work to tackle social issues. Another value of the NASW (2012) Code of Ethics is competence, encouraging social workers to enhance the knowledge base of the social work profession.

Since the Centers for Disease Control and Prevention have declared brain injury to be a major public health problem (2012), it is then a priority for social workers to be aware of this social issue and to screen their clients, especially since 85 percent of individuals with brain injury are undiagnosed (Bazarian et al., 2005).

### **Conceptual Framework**

The strengths-based perspective as applied in social work practice highlights clients' assets, capabilities, and motivations (Baker, 2003). In the Encyclopedia of Social Work the definition of the strengths perspective focuses on clients' competencies and the importance of self-determination, knowledge, and inherent strengths (Mizrahi & Davis, 2008).

There are six basic concepts of the strengths perspective, including empowerment, resiliency, membership in community, wholeness and healing, dialogue and conversation, and believing that the person is expert (Social Work Dictionary, 2003). Empowerment is defined by the Social Work Dictionary (2003) as helping clients improve their current situation by increasing strengths in the areas of personal, interpersonal, socio-economic, and political involvement. When social workers use this concept, clients have the opportunity to experience collaboration (Mizrahi, 2008).

The concept of resiliency incorporates the ability to recover and adapt to change (Saleebey, 1996). By remarking on clients' competence, belonging, and purpose, a social worker can build resilience within clients (Saleebey, 1996). Saleebey (1992) emphasized that social workers should identify how a client survived a problem rather than seek to discover the root cause of a client's problem, thereby reflecting back to the client his or her resiliency and ability to improve the situation.

Membership in community is considered a concept of the strengths perspective because social networks are a source of support, relationship, and sense of purpose for clients (Mottis, 2000). Wholeness and healing first involves the awareness that there is a problem and the desire to reach a full potential (Swayne, 2005). This principle speaks to

clients' motivation to improve their situation and social workers' need to find motivators for clients. Dialogue, or sharing narratives, has been linked with feelings of meaningfulness and affirmation that someone wants to listen (Saleebey, 1996).

Believing the client is expert is an essential component of the strengths perspective (Mizrahi & Davis, 2008; Saleebey, 1996). Language used within the strengths perspective suggests that the worker is a helper, a collaborator with clients rather than the expert. Using self-report as the main screening tool for brain injury emphasizes the client's expertise and places the worker as the learner, thereby empowering the client (Mizrahi & Davis, 2008). The helper must value the idea that clients have the ability to heal and increase their own potential (Saleebey, 1996).

Overall, the purpose of this study was to determine if and to what extent social workers with a license in independent clinical social work (LICSW) are screening for brain injury with that a random sample of 225 LICSW practitioners residing in Hennepin County and Ramsey County. The online survey reflected the strengths perspective by evaluating if social workers were asking clients to tell stories of incidents where brain injury may have occurred.

### **Methods**

The purpose of this study was to determine if and to what extent LICSWs were screening for brain injury during intake. Licensed social workers were invited to participate in an online survey about their experience and practice related to assessment for brain injuries.

### **Sample**

Study participants were recruited from a random sample of 225 LICSWs from the Minnesota Board of Social Work (Appendix A). Eligible participants had a LICSW for at least five years and resided in Hennepin or Ramsey County. A total of 13 people participated for a response rate of 5.1 percent.

### **Protection of Human Subjects**

A research committee approved the research proposal, and then approval from the St. Catherine University Internal Review Board (IRB) was sought. After the IRB approval the Brain Injury Screening Procedures Informational Letter (Appendix B) with the link to the survey (Appendix C) was emailed. The sample population was not considered to be a vulnerable population because they are professionals specialized in their work and the responses from the Qualtrics survey were made anonymous, so the researcher would not see email addresses of respondents. Completion of the survey implied consent.

### **Data Collection**

#### **Instrument Development**

Survey development was informed by the literature review and by utilizing content from multiple brain injury screening tools, including the HELPS Brain Injury

Screening Tool (Picard, et al., 1991), the T-B-I Screening tool (Ohio Valley Center for Brain Injury Prevention and Rehabilitation, 2009), and the Acute Concussion Evaluation (ACE) (Gioia & Collins, 2006). The survey, Brain Injury Screening Procedures (Appendix C), was created using Qualtrics Survey Software.

**Demographics.** Participants were asked demographic questions (survey items 1-2) to determine if they met the qualifications for completing the survey. They were asked to describe the setting of their practice (survey item 3) since research indicates some settings have a greater likelihood of serving people at-risk for brain injury (Hux, et. al, 2009).

**Service Delivery.** Participants were asked how clients are referred to their agency (survey item 4) since research suggests referrals from hospitals or rehabilitation centers are more likely to indicate brain injury (Valente & Fischer, 2011). They were asked if they work with populations at high risk for brain injury (survey item 5) based on Hux, Schneider and Bennet (2008) research. Two questions were posed to determine participants' involvement with direct service to adult clients (survey items 6-7). Participants were asked to indicate if and how often they work with people with brain injury (survey item 8-10) as a means of determining if and to what extent they are aware of and work with clients who may have sustained a brain injury.

**Training.** Participants were asked if they have had training in brain injury (survey item 11) and to explain the extent of the training (survey item 12), which may indicate their level of awareness of the public health issue (Centers for Disease Control and Prevention (2012).

**Assessment.** Participants indicated whether or not their agency uses an assessment tool to screen for brain injury (survey item 13). If participants answered in the affirmative, they were asked to specify which tool is utilized (survey item 14). Research indicated that there are primarily three categories of symptoms of brain injury: physical, cognitive, and emotional (Centers for Disease Control and Prevention, 2012; Minnesota Brain Injury Alliance, 2012). Participants were asked how often they screen clients for physical, cognitive, and emotional symptoms specific to brain injury (survey items 15-18). These questions have been constructed by utilizing content from multiple brain injury screening tools, including HELPS Brain Injury Screening Tool (Picard, et al., 1991), Acute Concussion Evaluation, Physician/Clinician Office Version (Gioia & Collins, 2006), and T-B-I Screening (Ohio Valley Center for Brain Injury Prevention and Rehabilitation, 2009). Finally, participants were given the option to comment about working with people with brain injury (survey item 19).

### **Data Collection Process**

Committee members and then the IRB approved the research proposal. Participants were invited to take the survey via an email Brain Injury Screening Procedures Informational Letter (Appendix B) with the link to the survey. Once participants decided to participate, they clicked on the link, which brought them to the Qualtrics web page, where they were welcomed to the survey (Appendix C). Completion implied consent. Participants had access to the survey (Appendix C) for one week. The data compiled from the surveys was collected anonymously and stored securely in Qualtrics.

**Data Analysis**

A total of 13 social workers completed the survey. Responses from participants who did not complete the survey in its entirety were not included. As referenced in the findings,  $N=13$ . SPSS 14.0 was used to perform statistical tests on the quantitative data from the survey. Descriptive statistics were calculated to identify participants' responses. Measures of central tendency were calculated for years in practice and likert responses to the screening questions. Independent t-samples tests were utilized to determine differences in reported screening behaviors for those who were in the training or no training condition. Qualitative comments will be presented in italics.



## Findings

### Demographics

All thirteen respondents indicated they had an LICSW ( $N=13$ ). As referenced in Table 1, the average number of years in practice since earning the LICSW was 18.08 years. Four agency settings were represented in this study (Table 1). A third of the respondents worked in both mental health clinics and in government agencies. Private practice and schools were the other categories of agency settings selected (Table 1).

Table 1

#### *Demographics*

	Count N=13	Percent (%)
<b>Years in Practice</b>		
3-10	5	38.4
11-20	4	30.8
21-40	4	30.8
Mean	18.08	
Standard Deviation	11.46	
Median	16	
<b>Agency Setting</b>		
Outpatient Mental Health	4	30.8
Government Agency	4	30.8
Private Practice	3	23.1
School	2	15.4

### Service Delivery

As noted in Table 2, the highest rated referral option was self-referral. The referrals from the county and staff members of the client share the second highest rating. Of the 13 respondents, 12 indicated that they provide direct service to clients, and eight respondents indicated that they supervise clinicians providing direct services. Every participant indicated working with at least one population of people at risk for brain injuries. Specifically, all participants indicated working with people with mental health

diagnoses, and over half of the participants also work with domestic abuse survivors, individuals who are homeless, and individuals involved in supported employment programs. Just under half the respondents also indicated they work with individuals in prevocational programs (n=6) and people with disabilities (n=6).

Table 2

**Service Delivery**

	Count N=13	Percent (%)
<b>Referral Source</b>		
Self-referral	8	61.50
County	4	30.80
Staff member of client	4	30.80
Rehabilitation specialist	2	15.40
School	2	15.40
Hospital	1	7.60
Insurance company	1	7.60
<b>Service to Clients</b>		
Direct service	12	92
Supervise direct service	8	61.5
<b>At-Risk Populations</b>		
Mental health diagnoses	13	100.0
Domestic abuse survivors	8	61.5
Homeless	8	61.5
Supported employment	7	53.8
Prevocational programs	6	46.1
Developmentally disabled	6	46.1

Eleven participants indicated they have knowingly worked with someone with a brain injury (Table 2). Of these 11 participants, one worked with people with brain injuries *all of the time*, two worked with people with brain injury *often*, six sometimes, and two *rarely*. Of the two participants who did not know if they have worked with someone with a brain injury, one indicated being unsure about working with this population in the future and one indicated *never*.

## Training

Every participant was asked about training specific to brain injury; less than half of the respondents (n=5) indicated they have experienced training whereas eight respondents said they had not (Table 3).

Table 3

### *Training*

	Count N=13	Percent (%)
<b>Training in Brain Injury</b>		
Yes	5	38.5
No	8	61.5

The chi-square was used to test for an association between categories of years in practice with the LICSW and having training in brain injury. The results indicated that while not stated as significant, people in all practice experience groups did not have training (Table 4).

Table 4

### *Years and Training*

	<b>Training</b>		
	Yes	No	Total
<b>Years</b>			
21-40 Years	2	2	4
% within Years	50.0%	50.0%	100.0%
11-20 Years	1	3	4
% within Years	25.0%	75.0%	100.0%
3-10 Years	2	3	5
% within Years	40.0%	60.0%	100.0%
Total	5.00	8.00	13.00
% within Years	38.5%	61.5%	100.0%

One respondent stated: *I would appreciate more training, particularly free webinar trainings.* Another respondent wrote: *clearly, our brains are "mission control" and going forward, we need to continue to learn all we can, from concussions to dementia, drugs, nutrition, optimum performance, therapy, in utero, etc., etc.* Yet an additional respondent stated: *I've been missing the boat on this one all of these years!* Clearly, social workers are interested in training in brain injury.

### **Assessment**

The majority of respondents indicated that their agency does not use a screening tool specific to brain injury (n=11). One of the two respondents who indicated their agency did use a tool referenced general tests utilized by psychologists and rehabilitation specialists; specific tests were not identified. The other respondent reported asking questions of the client during an assessment.

Respondents openly shared their perspectives working with people with brain injuries; one respondent specifically stated: *Clients do not offer the information, and sometimes the information is buried in a report. Family collateral is spotty at best.* A second respondent reported: *I wish SPECT scans were available in MN as Dr. Amen in California has found that this tool is very helpful in identifying brain injury problems. We do not have anything close to a SPECT scan in Minnesota.* And lastly a respondent stated: *I see clients after they have been screened in intake, so a lot of the questions are asked at that point. We do refer clients to services, such as the Brain Injury Association and sometimes refer clients to CADI or TBI waiver services if appropriate.*

Participants were asked to indicate how often they ask questions related to physical symptoms, which could indicate brain injury, and most responded *never*.

Participants were asked to indicate how often they ask questions related to cognitive symptoms that could indicate brain injury, most said *sometimes*. When participants were asked to indicate how often they ask questions related to emotional symptoms that could indicate brain injury, most selected *all of the time*.

An independent-samples t-test was conducted to compare the mean ratings on physical, cognitive and emotional screening procedures between the no training in brain injury and training in brain injury conditions (Table 5-7). Respondents who had training in brain injury were significantly more likely to screen for the physical symptoms of ringing in ears, blurred vision, and numbness (Table 5).

Table 5  
*Training and Physical Assessment*

<b>Physical Symptoms</b>	<b>With Training</b>		<b>Without Training</b>		<b>Total</b>	
	Mean	SD	Mean	SD	<i>t</i>	<i>p</i>
Headaches	3.60	1.14	2.13	1.36	2.02	0.069
Fatigue	3.60	1.14	2.88	1.64	0.86	0.408
Ringing in ears	2.20	0.45	1.48	0.74	2.22	0.048
Blurred vision	2.80	0.84	1.63	0.90	2.32	0.041
Sensitive to light	2.60	0.89	1.63	0.92	1.88	0.086
Numbness	2.60	0.89	1.38	0.74	2.68	0.021

Likewise, those with training were more likely to screen for the cognitive symptom of getting lost (Table 6).

Table 6  
*Training and Cognitive Assessment*

<b>Cognitive Symptoms</b>	<b>With Training</b>		<b>Without Training</b>		<b>Total</b>	
	Mean	SD	Mean	SD	<i>t</i>	<i>p</i>
Memory	3.80	0.84	3.38	0.74	0.96	0.359
Thinking	4.00	1.00	3.25	0.46	1.87	0.090
Learning	3.80	1.10	2.38	1.19	2.12	0.053
Concentrating	4.20	0.84	3.88	0.84	0.78	0.509
Decisions	4.00	1.00	3.63	0.52	0.90	0.387
Getting lost	3.80	1.01	1.63	0.92	0.39	0.003

There were no differences in the training and no training conditions on screening for emotional symptoms of brain injury (Table 7).

Table 7  
*Training and Emotional Assessment*

<b>Emotional Symptoms</b>	<b>With Training</b>		<b>Without Training</b>		<b>Total</b>	
	Mean	SD	Mean	SD	<i>t</i>	<i>p</i>
Irritability	4.40	0.89	4.50	0.76	-0.22	0.832
Anger	4.40	0.89	4.50	0.76	-0.22	0.832
Laughing	3.40	1.82	2.63	1.41	-0.87	0.405
Sadness	4.20	1.30	4.50	0.76	-0.31	0.761
Sleeping	4.20	1.01	4.50	0.76	-0.56	0.568

In addition to comments already addressed, two spoke directly to the impact of this study. *Thanks for your research effort. Brain health and functioning (dysfunction) is being considered in ways it never was historically; and, it's pretty clear that I've been missing the boat on this one all these years!*

## **Discussion**

In summary, all 13 respondents indicated working with at least one population at risk for brain injury (Table 1). Over half of respondents did not have training in brain injury (Table 2), and the number of years practicing with an LICSW was not an indicator of exposure to brain injury training (Table 3). Those who had training in brain injury were more likely to screen for physical and cognitive symptoms of brain injury (Table 4 and Table 5). Based on the current research findings, there are implications for present and future research. In this section, eight areas will be addressed that include demographics, service delivery, training, assessment, implications for social work practice, implications for policy, implications for research, and strengths and limitations.

### **Demographics**

In this study, the participants were LICSWs from Ramsey or Hennepin Counties who ranged in years practicing with their LICSW from three to 40 years, the average being 18.08 years (Table 1). It was expected that more of the 225 sampled would participate, especially since one of the NASW (2012) ethics encourages social workers to expand the study of social work by participating in research. The participants worked in a variety of settings including outpatient mental health settings, government agencies, private practices, and schools (Table 1), a finding congruent with Hux et al.'s (2012) position that LICSWs provide a critical service as they work with people at risk for brain injury or people living with an undiagnosed brain injury. The Centers for Disease Control and Prevention (2012) provides social workers with the tools necessary to screen for brain injury and yet the findings suggest even social workers working with people at high risk for brain injury are not utilizing these tools.

**Service Delivery**

The current study indicated in Table 2 that the highest-rated referral option was self-referral. Patterson and Staton (2009) suggested that people with brain injuries are not self-aware of their injuries and will not be able to self-disclose that they have an injury. However, when asked, they will be able to disclose their physical, cognitive, and emotional symptoms (Patterson & Staton, 2009). Each respondent worked with individuals with mental health diagnoses, a population at-risk for brain injuries (Hux et al., 2009), a finding congruent with Hux et al.'s (2009) research and yet over half of the respondents have not had training in brain injury (Table 2).

**Training**

Over half of the LICSW respondents indicated not having training in brain injury. Respondents who had training in brain injury were significantly more likely to screen for the physical symptoms of ringing in ears, blurred vision, and numbness and the cognitive symptom of getting lost. There were no differences in the training and no training conditions on screening for emotional symptoms of brain injury. The respondents in this study are typical of the general population of LICSWs who need training in brain injury in order to further ascribe appropriate treatments (Sequeira & Halstead, 2001).

**Assessment**

The Centers for Disease Control and Prevention (2012) recommend that professionals utilize brain injury screening tools. The brain injury screening tools recommended in the current literature screen for physical, cognitive, and emotional symptoms (Hux, et. al, 2009). All of the participants in the current research study work with a population at high risk for brain injury (Table 1), yet social workers are only



consistently screening for emotional symptoms of brain injury (Table 7). Without assessing for brain injury, social workers may increase the risk of setting clients up for failure—assuming they will remember information and interactions from meeting to meeting when they may suffer from short-term memory loss—or attributing verbal aggression to pent up rage rather than to a physiological reaction to a brain injury (Sequeira & Halstead, 2001; Folzer, 2001). Based on the current study, social workers need to be regularly screening for physical and cognitive symptoms of brain injury (Tables 5-6) to remain current with the emerging literature on brain injury and to adhere to the recommendations of The Centers for Disease Control and Prevention (2012). Respondents are interested in training and learning about brain injury.

### **Implications for Social Work Practice**

According to the National Association of Social Workers (NASW) (2012), one of the primary goals for social workers is to advocate for people who are in need and work to tackle social issues. Another value of the NASW (2012) Code of Ethics is competence, encouraging social workers to enhance the knowledge base of the social work profession. Since the Centers for Disease Control and Prevention have identified brain injury as a major public health problem (2012), it is incumbent on social workers to be aware of this social issue and to learn about its symptoms and methods for assessment. Only then will social workers be able to address the 85 percent of individuals with brain injury who are undiagnosed (Bazarian et al., 2005).

### **Implications for Policy**

Based on the current study, it is difficult to determine implications for policy since the results of the survey are not generalizable. The reason for the low response rate

is unfounded. However, the results that were obtained may indicate a need for the Minnesota Department of Human Services to issue a mandated brain injury screening tool that could be used during an initial meeting with a client unless a brain injury is already documented or for reimbursement from the state. Since social workers are likely to work with populations at risk for brain injuries, (Table 2) (Hux, et. al, 2009), it is recommended that the undergraduate and graduate social work curricula incorporate knowledge about brain injury since it is a major public health problem (Centers for Disease Control and Prevention, 2012).

### **Implications for Research**

First, it is noted that the findings of this study are not generalizable since the response rate 5.1 percent was small, yet the data gathered indicates further research is needed to determine if the findings are accurate in the larger population of clinical social workers, especially since the data suggested that clinical social workers are not assessing from a holistic perspective: physical, cognitive, and emotional. If similar results were found, it would be necessary to begin to understand the barriers social workers face in remaining aware of emerging public health concerns. Interviewing LICSWs regarding their perspectives on brain injury and their current knowledge, exposure to training, and/or use of brain injury screening tools would also be recommended to enrich our understanding of the in-vivo experience of social work practitioners. Lastly, further research considering if and to what extent schools of social work integrate content about brain injury into classroom curricula would be beneficial.

### **Strengths and Limitations**

The current study is not generalizable to the overall population of clinical social workers in Ramsey and Hennepin Counties due to a low response rate. However, it set the stage for further research regarding clinical social workers' practice of using brain injury screening tools. The study contributes to an area of research that clearly shows brain injury is prevalent in social work practice and yet not commonly highlighted. Based on this study, schools of social work might consider integrating information about brain injury in courses so that professionals are aware of this major public health concern (Centers for Disease Control and Prevention, 2012).

## References

- Baker, R. L. (2003). In Delo P. L., Pazdan S. D., Martin G. W., Mitchell E., Barnett A. and Bromley C. (Eds.), *The social work dictionary* (5th ed.). Port City Press, Baltimore, MD: NASW Press.
- Bazarian J. J., McClung J., Shah M.N., Cheng Y.T., Flesher W., Kraus J. (2005). Mild traumatic brain injury in the United States, 1998-2000. *Brain Injury* 19(85-91).
- Bigler, E. D. (1987). Neuropathology of acquired cerebral trauma. *Journal of Learning Disabilities*, 20(8) Retrieved from <http://ezproxy.stthomas.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=4734560&site=ehost-live>
- BrainLine.org (2012). *Frequently asked questions*. Retrieved September 15, 2012, from BrainLine.org: [www.brainline.org/content/2008/08/frequently-asked-questions.html](http://www.brainline.org/content/2008/08/frequently-asked-questions.html)
- Brain Injury Association of America. (2012). *Diagnosing brain injury*. Retrieved September 11, 2012, from Brain Injury Association of America: <http://www.biausa.org/brain-injury-diagnosis.htm>
- Centers for Disease Control and Prevention. (2012). *Injury prevention and control: traumatic brain injury*. Retrieved September 8, 2012, from Centers for Disease Control and Prevention: [cdc.gov/TraumaticBrainInjury/index.html](http://cdc.gov/TraumaticBrainInjury/index.html)
- Department of Justice. (1998). Working with victims of crime and disabilities. Washington D.C., Maryland: Government Printing Office.
- Folzer, S. (2001). Psychotherapy with "mild" brain-injured patients. *American Journal of Orthopsychiatry*, 71 (2), 245-251.
- Handel, S. F., Ovitt, L., Spiro, J. R., & Rao, V. (2007). Affective disorder and personality change in a patient with traumatic brain injury. *Psychosomatics* , 48 (1), 61-70.
- Holtzer, R., Burright, R. G., Lynn, S. J., & Donovanick, P. J. (2000). Behavioural differences between psychiatric patients with confirmed versus non-confirmed traumatic brain injuries. *Brain Injury*, 14(11), 959-973. doi: 10.1080/02699050050191904
- Hux, K., Schneider, T., & Bennett, K. (2009). Screening for traumatic brain injury. *Brain Injury*, 23(1), 8-14. doi: 10.1080/02699050802590353
- Jennett, B. (2002). The Glasgow Coma Scale: History and current practice. *Trauma*, 4(2), 91-103. Retrieved from

<http://ezproxy.stthomas.edu/login?url=http://search.ebscohost.com.ezproxy.stthomas.edu/login.aspx?direct=true&db=keh&AN=8747443&site=ehost-live>

Kim E. (2002). Agitation, aggression, and disinhibition syndromes after traumatic brain injury. *Neurorehabilitation*, 17(4), 297-310.

Levin, H.S., Gary, H.E., Eisenberg, H.M. (1990). Neurobehavioral outcome 1 year after severe head injury. Experience of the Traumatic Coma Data Bank. *Journal of Neurosurgery* 73(5), 699-709.

Menon, D. K., Schwab, K., Wright, D. W., & Maas, A. I. (2010). Position statement: Definition of traumatic brain injury. *Archives of Physical Medicine and Rehabilitation*, 91(11), 1637-1640. doi: 10.1016/j.apmr.2010.05.017

Minnesota Brain Injury Alliance. (2012). *About brain injury*. Retrieved September 8, 2012, from Minnesota Brain Injury Alliance: [braininjurymn.org](http://braininjurymn.org)

Mizrahi, T., & Davis, L. E. (Eds.). (2008). *Encyclopedia of social work* (20th ed.). Washington, DC and New York: NASW Press & Oxford University Press, Inc.

Mottis, J. S., Jogers, R. J., Hatcher, C. A., Lawhon, G. D., Murphy, E. J., & Murray, Y. F. (2000). Religiosity, volunteerism, and community involvement among African American men: An exploratory analysis. *Journal of Community Psychology*, 28(4), 391-406. Retrieved from <http://ezproxy.stthomas.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=11771786&site=ehost-live>

National Association of Social Workers. (2012). *Code of ethics*. Retrieved November 28, 2012 from the National Association of Social Workers: [www.socialworkers.org/pubs/code/code.asp](http://www.socialworkers.org/pubs/code/code.asp)

NIH Consensus Development Panel on Rehabilitation of Persons With Traumatic Brain Injury. Rehabilitation of Persons With Traumatic Brain Injury. *JAMA*. 1999;282(10):974-983. doi:10.1001/jama.282.10.974.

National Institute of Neurological Disorders and Stroke. (2002). *Traumatic brain injury: Hope through research*. Retrieved August 11, 2011, from [http://www.ninds.nih.gov/disorders/tbi/detail\\_tbi.htm](http://www.ninds.nih.gov/disorders/tbi/detail_tbi.htm)

National Institute of Neurological Disorders and Stroke. (2007). *Wernicke-Korsakoff syndrome information*. Retrieved September 11, 2012, from [http://www.ninds.nih.gov/disorders/wernicke\\_korsakoff/wernicke-korsakoff.htm](http://www.ninds.nih.gov/disorders/wernicke_korsakoff/wernicke-korsakoff.htm)

Naylor, M., & Stacen, A. K. (2008). Transitional care. *Journal of Social Work Education*, 44(3), 65-73. Retrieved from [http://search.proquest.com/docview/897674718?accountid=14756;](http://search.proquest.com/docview/897674718?accountid=14756)

[http://fc9en6ys2q.search.serialssolutions.com/?ctx\\_ver=Z39.88-2004&ctx\\_enc=info:ofi/enc:UTF-8&rft\\_id=info:sid/ProQ%3A sociology&rft\\_val\\_fmt=info:ofi/fmt:kev:mtx:journal&rft.genre=article&rft.jtitle=Journal+of+Social+Work+Education&rft.atitle=TRANSITIONAL+CARE&rft.au=Naylor%2C+Mary%3BKeating%2C+Stacen+A&rft.aulast=Naylor&rft.aufirst=Mary&rft.date=2008-10-01&rft.volume=44&rft.issue=3&rft.spage=65&rft.isbn=&rft.btitle=&rft.title=Journal](http://fc9en6ys2q.search.serialssolutions.com/?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rft_id=info:sid/ProQ%3A sociology&rft_val_fmt=info:ofi/fmt:kev:mtx:journal&rft.genre=article&rft.jtitle=Journal+of+Social+Work+Education&rft.atitle=TRANSITIONAL+CARE&rft.au=Naylor%2C+Mary%3BKeating%2C+Stacen+A&rft.aulast=Naylor&rft.aufirst=Mary&rft.date=2008-10-01&rft.volume=44&rft.issue=3&rft.spage=65&rft.isbn=&rft.btitle=&rft.title=Journal)

Ohio Valley Center for Brain Injury Prevention and Rehabilitation. (2009). T-B-I Screening. Retrieved September 15, 2012, from Brainline.org: [www.brainline.org/content/2009/06/tbi-screening-tool.html](http://www.brainline.org/content/2009/06/tbi-screening-tool.html)

Patterson, Faith L., Staton, Renee A. (2009). Adult-acquired traumatic brain injury: Existential implications and clinical considerations. *Journal of Mental Health Counseling*. 31(2), 149-163.

Peters, P. (2011). Primary blast injury: An intact tympanic membrane does not indicate the lack of a pulmonary blast injury. *Military Medicine*, 176(1), 110-114. Retrieved from <http://ezproxy.stthomas.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=57465419&site=ehost-live>

Rao, V., Bertrand, M., Rosenberg, P., Makley, M., Schretlen, D. J., Brandt, J., & Mielke, M. M. (2010). Predictor's of new-onset depression after mild traumatic brain injury. *The Journal of Neuropsychiatry and Clinical Neurosciences*, 22(1), 100-104.

Rees, L., Marshall, S., Hartridge, C., Mackie, D., & Weiser, M. (2007). Cognitive interventions post acquired brain injury. *Brain Injury*, 21(2), 161-200. doi: 10.1080/02699050701201813

Robertson, A. (1988). The Post-concussional Syndrome Then and Now. *Australian and New Zealand Journal of Psychiatry*.

Rochat, L., Beni, C., Billieux, J., Azouvi, P., Annoni, J., & Van der Linden, M. (2010). Assessment of impulsivity after moderate to severe traumatic brain injury. *Neuropsychological rehabilitation*, 20(5), 778-797.

Saleebey, D. (1992). The strengths perspective in social work practice. New York: Longman.

Saleebey, D. (1996). The strengths perspective in social work practice: Extensions and cautions. *Social Work*, 41(3), 296-305. Retrieved from <http://search.proquest.com/docview/215273439?accountid=14756>; [http://fc9en6ys2q.search.serialssolutions.com/?ctx\\_ver=Z39.88-2004&ctx\\_enc=info:ofi/enc:UTF-](http://fc9en6ys2q.search.serialssolutions.com/?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8)

8&rft\_id=info:sid/ProQ%3Asociology&rft\_val\_fmt=info:ofi/fmt:kev:mtx:journal  
&rft.genre=article&rft.jtitle=Social+Work&rft.atitle=The+strengths+perspective+  
in+social+work+practice%3A+Extensions+and+cautions&rft.au=Saleebey%2C+  
Dennis&rft.aualast=Saleebey&rft.aufirst=Dennis&rft.date=1996-05-  
01&rft.volume=41&rft.issue=3&rft.spage=296&rft.isbn=&rft.btitle=&rft.title=So  
cial+Work&rft.issn=00378046

Schönberger, M., Humle, F., & Teasdale, T. W. (2006). The development of the therapeutic working alliance, patients' awareness and their compliance during the process of brain injury rehabilitation. *Brain Injury*, 20(4), 445-454. doi: 10.1080/02699050600664772

Sequeira H., Halstead S. (2001). Is it meant to hurt, is it?: Management of violence in women with developmental disabilities. *Violence Against Women*. 7(4), 462-76.

Swayne, J. (2005). Homeopathy, wholeness and healing. *Homeopathy*, 94(1), 37-43. doi: 10.1016/j.homp.2004.11.017

Teasdale, G, Jennett, B. (1974). Assessment of coma and impaired consciousness. A practical scale. *Lancet*. 304(7872), 81-84.

Thomas, M. (2004). The potential unlimited programme: an outdoor experiential education and group work approach that facilitates adjustment to brain injury. *Brain Injury*, 18 (12), 1271-1286.

U.S. Census Bureau. (2011). *The 2011 Statistical Abstract: The national data book*. Retrieved August 14, 2011, from U.S. Census Bureau: <http://www.census.gov/compendia/statab/2011/tables/11s0078.pdf>

Valente, S. M., & Fisher, D. (2011). Traumatic brain injury. *The Journal for Nurse Practitioners*, 7(10), 863-870. doi: 10.1016/j.nurpra.2011.09.016

Van Dyke, S. A., Axelrod, B. N., & Schutte, C. (2010). Test-retest reliability of the traumatic brain injury screening instrument. *Military Medicine*, 175(12), 947-949. Retrieved from <http://ezproxy.stthomas.edu/login?url=http://search.ebscohost.com.ezproxy.stthomas.edu/login.aspx?direct=true&db=keh&AN=56491692&site=ehost-live>

Williams, DH, Levin, HS, Eisenberg, HM. (1990). Mild head injury classification. *Neurosurgery*, 27(3), 422-428.

Winslade, W. J. (1998). *Confronting traumatic brain injury: Devastation, hope, and healing*. Binghamton, New York: Vail-Ballou Press.

**Appendix A**

**Letter of Request for Mailing List**

Friday, September 21, 2012

State of Minnesota Board of Social Work  
2829 University Ave SE, Suite 340  
Minneapolis, MN 55414

RE: Mailing List

Dear State of Minnesota Board of Social Work:

I am requesting a mailing list that includes a random selection of email addresses of 200 individuals with the following criteria: LICSW for at least five years in Ramsey and Hennepin Counties. This list is being requested to conduct a research project required for the Master's Social Work program through St. Catherine University and the University of St. Thomas. Please contact me with any clarifying questions. Included is a payment of \$50.00 for the requested list.

Sincerely,

Shawna Carey

**Response from the State of Minnesota Board of Social Work**

Thursday, September 27, 2012

Hi Shawna-

Your list of randomly selected LICSWs in Hennepin and Ramsey counties who have had their license for at least five years is attached. Please contact me if you have any questions.

Thanks!

Connie

***Connie Oberle, Office Manager***

Minnesota Board of Social Work  
2829 University Ave SE Ste 340  
Minneapolis MN 55414-3239



## Appendix B

### Brain Injury Screening Procedures Informational Letter

Dear Social Work Practitioner:

You are invited to participate in a research study to explore screening procedures for brain injury. This study is being conducted by Shawna Carey, a graduate student at the School of Social Work at St. Catherine University/University of St. Thomas, under the supervision of Dr. Carol Kuechler, a faculty member at the school. You were selected as a possible participant in this research because of your involvement with the State of Minnesota Board of Social Work and your experiences as an LICSW. Please read this form and ask questions before you agree to be in the study.

Brain injuries are a major public health problem. People at high risk for brain injury are likely to be in settings in which social workers practice and many people with brain injuries are not even aware that they have incurred such an injury. With this knowledge, it is imperative that social workers screen for brain injury. The purpose of this study is to determine if and to what extent clinical social workers are screening for brain injury. Approximately 200 people are expected to participate in this research.

If you decide to participate, you will be asked click on a link below to complete a five- to ten-minute survey to determine if and to what extent you are conducting brain injury assessments. The link will be active for one week: Monday, November 5<sup>th</sup> through Monday, November 12<sup>th</sup>.

There are no known risks and no direct benefits to you for participating in this study.

No information obtained in connection with this research study can be identified with you. Your results will be kept anonymous and confidential. The Qualtrics survey is set up so that Qualtrics does not allow emails to be linked to the results. In any written reports or publications, no one will be identified or identifiable, and only group data will be presented.

Participation in this research study is voluntary. Your decision whether or not to participate will not affect your future relations with St. Catherine University or the University of St. Thomas in any way. If you decide to participate, you are free to stop at any time without affecting these relationships. Completion of the survey implies consent.

If you have any questions, please feel free to contact me, Shawna Carey, at care9285@stthomas.edu. If you have any additional questions, my faculty advisor, Dr. Carol Kuechler at cfkuechler@stkate.edu and/or (651) 690-6719, will be happy to answer them. If you have other questions or concerns regarding the study and would like to talk to someone other than the researchers, you may also contact Dr. John Schmitt, Chair of the St. Catherine University Institutional Review Board, at (651) 690-7739.

Thank you for your participation.

[Please click here to begin.](#)

Sincerely,

Shawna Carey

MSW Graduate Student  
University of St. Thomas and St. Catherine University  
Care9285@stthomas.edu

## Appendix C

### Brain Injury Screening Procedures

You are invited to participate in an online survey conducted by Shawna Carey, graduate student in the School of Social Work the University of St. Thomas/St. Catherine University and supervised by Dr. Carol Kuechler, a faculty member of this school. Brain injuries are a major public health problem. Many people with brain injuries are not even aware that they have incurred such an injury. People at high risk for brain injury are likely to be in settings in which social workers practice. With this knowledge, it is imperative that social workers screen for brain injury. The purpose of this survey is to determine if and to what extent social workers are screening for brain injury. Your responses will be anonymous; no email or account information will be recorded. The survey will be open from 8:00am 11/05/2012 through 12:00pm 11/12/2012. Your participation will be greatly appreciated!

IRB APPROVAL CODE 12-N-55

Q1 What is your current level of licensure?

- ☐ LSW (1)
- ☐ LCSW (2)
- ☐ LISW (3)
- ☐ LICSW (4)
- ☐ Please specify if other (5) \_\_\_\_\_

If LICSW Is Not Selected, Then Skip To End of Survey

Answer If What is your current level of licensure? LICSW Is Selected

Q2                      How many years have you been in practice since earning the LICSW?

Q3 In what setting is your practice? Select the most appropriate response.

- ☐ Hospice and Palliative Care (1)
- ☐ School (2)
- ☐ Government Agency (3)
- ☐ Health Clinics and Outpatient Health Care Setting (4)
- ☐ Hospital and Medical Center (5)
- ☐ Private Practice (6)
- ☐ Mental Health Clinic and Outpatient Setting (7)
- ☐ Psychiatric Hospital (8)
- ☐ Social Service Agency (9)
- ☐ Please specify if other (10) \_\_\_\_\_

Q4 How are clients referred to your practice setting? Select all that apply.

- ☐ Self-Referral (1)
- ☐ Referred by a Rehabilitation Specialist (2)
- ☐ Referred by the county (3)
- ☐ Referred by a staff member of the individual (4)
- ☐ Please specify if other (5) \_\_\_\_\_

Q5 Do you work with any of the following populations? Select all that apply.

- ☐ Domestic abuse survivors (1)
- ☐ Individuals who are homeless (2)
- ☐ Individuals diagnosed with mental health disorders (3)
- ☐ Individuals who are involved in supported employment (4)
- ☐ Individuals who are involved in prevocational programs (5)
- ☐ Individuals with developmental disabilities (6)
- ☐ None of the above (7)

Q6 In any capacity, do you provide direct services with adult clients?

- ☐ Yes (1)
- ☐ No (2)

Q7 In any capacity, do you provide supervision to clinicians providing direct service with adult clients?

- ☐ Yes (1)
- ☐ No (2)

Q8 In your practice, have you knowingly worked with someone with a brain injury?

- ☐ Yes (1)
- ☐ No (2)

Answer If In your practice, have you knowingly worked with someone ... No Is Selected

Q9 How often will you work with someone with a brain injury in the future?

- ☐ I do not know (1)
- ☐ Never (2)
- ☐ Rarely (3)
- ☐ Sometimes (4)
- ☐ Most of the Time (5)
- ☐ Always (6)

Answer If In your practice, have you knowingly worked with someone ... Yes Is Selected

Q10 How often do you work with clients who have sustained a brain injury?

- ☐ I do not know (1)
- ☐ Never (2)
- ☐ Rarely (3)
- ☐ Sometimes (4)
- ☐ Often (5)
- ☐ All of the Time (6)

Q11 Have you participated in training specific to brain injury?

- ☐ Yes (1)
- ☐ No (2)

Answer If Have you participated in training specific to brain injury? Yes Is Selected

Q12 Specify the type(s) of training in brain injury in which you have participated:

**Q13 Does your practice setting use a screening tool that is specific to the assessment of brain injury?**

- ☐ Yes (1)  
☐ No (2)

**Answer If Does your agency use a brain injury screening tool? Yes Is Selected**

**Q14 What screening tool is used?**

- ☐ Please Specify (1) \_\_\_\_\_  
☐ I am not sure (2) \_\_\_\_\_

**Q15 During an initial assessment for services in your practice agency, how often do you ask clients about the following situations?**

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	All of the time (5)
have been hit on the head? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
have sought medical attention because of an injury to the head? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
have ever lost consciousness or experienced a period of disorientation due to an injury to the head? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Q16 During an initial assessment, how often do you ask clients if they have any of the following physical symptoms:**

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	All of the time (5)
headaches (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
fatigue (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ringing in ears (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
blurred and/or double vision (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
sensitivity to light (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
numbness (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Q17 During an initial assessment, how often do you ask clients if they have any of the following cognitive symptoms:**

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	All of the time (5)
memory loss (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
slowness in thinking (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
difficulty learning new tasks (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
difficulty concentrating (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
trouble making decisions (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
problems getting lost (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Q18 During an initial assessment, how often do you ask clients if they have any of the following emotional symptoms:**

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	All of the time (5)
increased irritability (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
increased anger (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
increased laughing (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
increased crying and/or sadness (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
difficulty sleeping (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Q19 Is there anything else you would like to say about working with people with brain injury?**